



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/738,435	12/17/2003	Christopher Gregory Malone	200311632-1	8319
22879	7590	02/09/2006		
HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400			EXAMINER MCKINNON, TERRELL L	
			ART UNIT	PAPER NUMBER
			3753	

DATE MAILED: 02/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/738,435	Applicant(s) MALONE ET AL.	
	Examiner Terrell L. Mckinnon	Art Unit 3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 November 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28,30 and 32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28,30 and 32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2, 11, 12, 16-19, 21, 24-26, 28 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Lehman et al. (2002/0196604).

Lehman discloses a system and method for cooling a component in a computer system comprising one or more heat exchanger components that in major part are operably located outside a rack-mounted computer chassis; the one or more heat exchanger components are coupled with one of a front or rear surface of computer chassis without in major part extending beyond vertical and horizontal dimensions of the front or rear surface of the rack mounted computer chassis [0025]; wherein a location of the one or more heat exchanger components serves to allow a user to move the rack mounted computer chassis in and out of a rack without uncoupling the one or more heat exchanger components from the rack mounted computer chassis; and all dependent claim limitations of the applicant's claimed and disclosed invention.

Claim Rejections - 35 USC § 103

Art Unit: 3753

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4-11, 13-15, 20, 22, 23, 27, 28 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lehman et al. (U.S. 2002/0196604) in view of Chesser et al. (U.S. 2004/0050533).

Lehman's invention discloses all of the claimed limitations from above except for the one or more portions of tubing comprise one or more heat transfer sections, wherein the one or more heat transfer sections comprise a first heat transfer section that abuts the one or more heat producing components; the one or more heat transfer sections comprise a second heat transfer section that abuts the one or more fins, wherein the heat exchanger component moves the fluid against one or more of the one or more fins to transfer heat from the fluid to the one or more of the one or more fins; one or more fans located inside and outside of the computer chassis to dissipate the heat, wherein one or more of the one or more fins are operably located outside of the computer chassis, wherein the one or more fans force air against the one or more of the one or more fins to dissipate the heat; one or more pumps; one or more cold plates with tubing; a mixture of water and coolant use as a working fluid; the one or more heat exchanger components comprise a size that is less than or equal to a size of the rear outer surface of the computer chassis; wherein the computer chassis sits in a rack, wherein the size

Art Unit: 3753

of the heat exchanger component allows removal of the computer chassis and the heat exchanger component from the rack.

5. However, Chesser teaches one or more portions of tubing comprise one or more heat transfer sections, wherein the one or more heat transfer sections comprise a first heat transfer section that abuts the one or more heat producing components; the one or more heat transfer sections comprise a second heat transfer section that abuts the one or more fins, wherein the heat exchanger component moves the fluid against one or more of the one or more fins to transfer heat from the fluid to the one or more of the one or more fins; one or more fans located inside of the computer chassis to dissipate the heat, wherein one or more of the one or more fins operably located with the computer chassis, wherein the one or more fans force air against the one or more of the one or more fins to dissipate the heat; one or more pumps; one or more cold plates with tubing; a mixture of water and coolant use as a working fluid; the one or more heat exchanger components comprise a size that is less than or equal to a size of the rear outer surface of the computer chassis; wherein the computer chassis sits in a rack [0064], wherein the size of the heat exchanger component allows removal of the computer chassis and the heat exchanger component from the rack.

Given the teachings of Chesser, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the cooling system of Lehman with one or more portions of tubing comprise one or more heat transfer sections, wherein the one or more heat transfer sections comprise a first heat transfer section that abuts the one or more heat producing components; the one or more heat transfer sections

Art Unit: 3753

comprise a second heat transfer section that abuts the one or more fins, wherein the heat exchanger component moves the fluid against one or more of the one or more fins to transfer heat from the fluid to the one or more of the one or more fins; one or more fans located inside and outside of the computer chassis to dissipate the heat, wherein one or more of the one or more fins are operably located outside of the computer chassis, wherein the one or more fans force air against the one or more of the one or more fins to dissipate the heat; one or more pumps; one or more cold plates with tubing; a mixture of water and coolant use as a working fluid; the one or more heat exchanger components comprise a size that is less than or equal to a size of the rear outer surface of the computer chassis; wherein the computer chassis sits in a rack, wherein the size of the heat exchanger component allows removal of the computer chassis and the heat exchanger component from the rack.

Doing so would provide an alternate arrangement for enhancing the cooling performance of the cooling system.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references cited on the USPTO 892 discloses related limitations of the applicant's claimed and disclosed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Terrell L. Mckinnon whose telephone number is 571-

Art Unit: 3753

272-4797. The examiner can normally be reached on Monday -Thursday and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Blau can be reached on 571-272-4406. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Terrell L McKinnon
Primary Examiner
Art Unit 3753
February 6, 2006